

USPTO Customer No. 25280

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REMARKS**Election / Restriction**

The application contains claims directed to the following patentably distinct species of the claimed invention: all of the polymer compounds outlined in Claim 5.

In a telephone conversation with the Examiner on October 7, 2004, John Vick (an attorney for Applicant) provisionally elected the embodiment of the invention in which the second polymer is ethylene-methyl acrylate polymer. Applicant hereby confirms this election, with traverse. New Claims 21 and 22 are directed specifically to ethylene-methyl acrylate as the second polymer.

MPEP 803.02, which deals with the restriction of Markush claims, states that "unity of invention exists where compounds included within a Markush group (1) share a common utility, and (2) share a substantial structural feature disclosed as being essential to that utility."

In this instance, Applicant believes that there is unity of invention because the compounds included in Claims 5 and 18 share a common utility: they are combined with silicone to create a semi-interpenetrating polymer network. Further, they have a structural feature—namely, a solubility parameter within a specified range—that is essential to creating the polymer network.

Additionally, to reduce the burden of searching by the Examiner, Applicant has amended Claims 5 and 18 to include a shorter list of compounds as the second polymer.

For these reasons, Applicant requests the restriction requirement be reconsidered.

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Response to Claim Analysis Comments

The Examiner suggests that independent Claims 1 and 10 do not require the silicone to be crosslinkable, although the specification speaks at length about forming semi-interpenetrating networks by using a crosslinkable silicone in concert with the second polymer. To address and hopefully alleviate the Examiner's concerns, Claims 1 and 10 have been amended to specify that a plurality of semi-interpenetrating networks are created in which the second polymer is trapped within the crosslinked silicone polymers. Support for this amendment is found in FIGURE 1 and paragraphs 10, 11, 18, 19, 21, and 22 of the specification.

Rejection under 35 USC 112, first paragraph

Claims 1 – 20 are rejected under 35 USC 112, first paragraph, because the specification, while being enabling for select embodiments of a polymer having a cohesion parameter of between 13 and 19 MPa^{1/2}, it does not reasonably provide enablement for the breadth of polymers that may possess this characteristic.

Independent Claims 1 and 10 have been amended to specify the relationship between the silicone polymer and the second polymer that is interdispersed within the silicone polymer (namely, that a plurality of semi-interpenetrating polymer networks are created in which said second polymer is trapped within the crosslinked silicone polymers).

Claims 5 and 18 have also been amended to further specify suitable polymers capable of creating such semi-IPNs. Examples of suitable polymers are listed in the tables on pages 10 – 12 of the specification, with specific product names where available. The disclosure of representative product names is, by no means, considered by Applicant to be exclusive of other compounds in such polymer class.

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Applicant believes these amendments sufficient to alleviate the Examiner's concerns and to overcome the rejection based on 35 USC 112, first paragraph.

Rejection under 35 USC 102

Claims 1 – 5 are rejected under 35 USC 102(b) as being anticipated by Dillon et al. (US Patent 4,945,125).

The Examiner's position is essentially as follows:

"The abstract and Column 3, lines 30-42 disclose all aspects of Claims 1-5 with the notable exception of the cohesion parameter of the second polymer, which in this case is polytetrafluoroethylene. However, the cohesion parameter range is inherently satisfied by PTFE in view of Applicant's admission in Claim 5 that this polymer is a preferred embodiment of the second polymer."

Applicant has amended Claim 5 to not include polytetrafluoroethylene as the second polymer. Applicant's Claims 1-3 and 5 now recite a coating formulation for airbag fabrics, where the formulation comprises a crosslinkable silicone polymer and a second polymer with a given cohesion parameter.

Because Dillon et al. do not teach all of the limitations of Applicant's claims, it is believed that the rejection is improper and should be withdrawn.

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Claims 1 – 5 are rejected under 35 USC 102(e) as being anticipated by Kim et al. (US Patent Application Publication No. 2004/0063803). The argument provided by the Office is essentially as follows:

"Kim discloses polymer blends (paragraph 20) comprising a crosslinkable siloxane polymer and a non-silicone material selected from those outlined in paragraph 23. Relevant to the present discussion, polychloroprene is identified as a potential embodiment of the silicone. According to Kim, upon reacting the siloxane and crosslinking agent, a structure selected from that of a thermoplastic vulcanizate and an interpenetrating network is formed. As the crosslinkable siloxane, two-part mixtures comprising unsaturated group-functionalized siloxanes and organohydrogensiloxanes are contemplated in paragraph 32, as is a catalyst selected from platinum catalysts and peroxide catalysts. As was the case with PTFE, polychloroprene is mentioned in claim 5 as an embodiment of the second polymer having the required cohesion polymer."

Applicant's Claims 1-3 and 5 now recite a coating formulation for airbag fabrics, where the formulation comprises a crosslinkable silicone polymer and a second polymer with a given cohesion parameter. Kim et al. teaches a coating useful in sporting goods (e.g., as a coating for a golf ball).

Because Kim et al. do not teach all of the limitations of Applicant's claims, it is believed that the rejection is improper and should be withdrawn.

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Claims 1 – 5 are rejected under 35 USC 102(b) as being anticipated by Zolotnitsky (US Patent 5,648,426). The rejection is based on the following argument:

“Zolotnitsky discloses a silicone-thermoplastic IPN derived from an addition-curable, two-part silicone and one of a number of different thermoplastics including polyethylene and polypropylene. The catalysts employed for crosslinking the organosilicone materials include various platinum complexes. Polyethylene is an embodiment of the second polymer mentioned in claim 5 and, hence, will inherently possess the required cohesion parameter.”

The Zolotnitsky reference is concerned with improving the impact resistance of thermoplastic materials that are compounded into articles. The present application is concerned with creating semi-interpenetrating polymer networks for the purpose of coating an airbag fabric. Airbag coatings, by necessity, possess properties that are significantly different from compounded articles—for example, flexibility and low air permeability.

Applicant's Claims 1-3 and 5 now recite a coating formulation for airbag fabrics, where the formulation comprises a crosslinkable silicone polymer and a second polymer with a given cohesion parameter. Because Zolotnitsky does not teach all of the limitations of Applicant's claims, it is believed that the rejection is improper and should be withdrawn.

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The Examiner has indicated that Claims 6 – 20 would be allowable if rewritten or amended to overcome the rejection(s) under 35 USC 112, first paragraph, as set forth in the Office Action.

Applicant has amended Claims 6-10, 18, and 20 to overcome the rejection under 35 USC 112, first paragraph and/or to clarify the scope thereof. Applicant believes the rejection to now be traversed and requests the withdrawal thereof.

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CONCLUSION

For the reasons set forth above, it is respectfully submitted that the rejections should be withdrawn and that all claims now stand in condition for allowance.


Should any issues remain after consideration of this Amendment and accompanying Remarks, the Examiner is invited and encouraged to telephone the undersigned in the hope that any such issue may be promptly and satisfactorily resolved.

This response is accompanied by a Petition for Extension of Time (two months). In the event that there are additional fees associated with the submission of these papers (including extension of time fees), authorization is hereby provided to withdraw such fees from Deposit Account No. 04-0500.

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Respectfully submitted,



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